



U.S. Department of Education Green Ribbon Schools 2013

For Public Schools only: [ ] Charter [ ] Title I [ ] Magnet [ ] Choice

Name of Principal Ms. Amy G. Phelan  
(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official School Name Bedwell Elementary School  
(As it should appear in the official records)

School  
Mailing Address 141 Sency Drive  
(If address is P.O. Box, also include street address.)

Bernardsville NJ 07924  
City State Zip

County Somerset State School Code Number\* 030

Telephone (908) 204-1920 Fax (908) 204-0481

Web site/URL www.shsd.org E-mail aphelan@shsd.org

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.

Amy G. Phelan Date 2/5/13  
(Principal's Signature)

Name of Superintendent\* Mr. Peter Miller  
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

District Name\* Somerset Hills Tel. (908) 204-1930  
School District

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate. This is one of the highest performing green schools in my jurisdiction.

Peter Miller Date 2/5/13  
(Superintendent's Signature)

\*Private Schools: If the information requested is not applicable, write N/A in the space.

The Bedwell Elementary School is extremely proud to consider itself a “green” school that cares for the environment and teaches our students to do the same. The Somerset Hills School District, as a whole, instituted a number of energy saving and sustainability initiatives, as directed by the District’s strategic plan. At Bedwell, the sustainability programs have firmly taken hold to the point where they are firmly ingrained in our culture. We are honored to have our efforts recognized by being named as a New Jersey Green Ribbon School.

The District Strategic Plan, implemented in June 2008, committed to implementing “a comprehensive Green Initiative to promote high performing, green, sustainable facilities; expanding students’ environmental awareness and community service relating to caring for the environment; and developing an integrated environmental education curriculum.” At Bedwell, this vision was realized through students, teachers, administrators and staff working together to decrease energy consumption, reduce carbon footprint, improve student and staff health and increase literacy and awareness of environmental concerns. Widespread collaboration both within the school and with the greater community has resulted in a culture within our school in which environmental stewardship is highly prized and programs are continually being introduced and expanded.

The key to the success of Bedwell’s green initiatives is a multi-pronged approach. From an infrastructure standpoint, the District undertook an investment grade audit and instituted an Energy Savings Improvement Program to implement upgrades. To complement the upgrades, the District brought in the “Schools for Energy Efficiency” Program to implement “no and low cost” energy savings strategies based on behavioral changes. Environmental education was emphasized through curriculum integration, environmental clubs, Earth Week activities, and a coordinated environmental awareness/recycling program. The District also instituted an energy policy aimed to reduce energy waste and increase awareness of environmental concerns. While these measures are District-wide, the results at Bedwell School are monitored, measured and reported so that our staff and students are actively engaged and involved.

Collaboration across many levels has played a key role in the success of the Bedwell’s sustainability program. Custodial, maintenance and cafeteria workers are trained in energy savings techniques, as well as energy efficient operations and maintenance. Additionally, these employees are charged with identifying energy savings ideas and reporting and fixing any infrastructure problems related to wasted energy or water. Faculty oversee energy and environmental programs in their classrooms and integrate them into existing curricula. Administrators act as the focal point for communication and dissemination of information, while providing support and suggestions on how to tailor the program to Bedwell’s specific needs. Interschool cooperation is also emphasized, through collaborative Green Team and Earth Week projects. External to the District, organizations such as the Borough of Bernardsville, the Borough Green Team, Friends for a Greener Bernardsville, the Home and School Association, The Bernardsville Library, the Boy Scouts and local corporations have collaborated with Bedwell students on various environmental projects.

Since the institution of the Green Strategic Initiative, environmental programs at Bedwell have consistently grown and broadened. The celebration of Earth Day has expanded into Earth Week, and once yearly events such as “Turn out the Lights Day” have evolved into a daily effort to rely on natural light. An extracurricular Green Team was established and activities have been expanded. Recycling, which started out with bottles and cans and has broadened to include bottle caps, ink cartridges, crayons, small electronics, juice packets, coats and eyeglasses. A composting program was started for the school garden and has expanded to the lunchroom. To promote healthy eating among students and staff, the school food service company donated seeds for the edible school garden, and the fruits and vegetables are now served in the cafeteria. The garden will expand due to grants from Lowe’s Corporation, and an Eagle Scouting project will improve the facilities and infrastructure. In the classroom, Science and math lessons now include environmental and energy savings themes, and the morning announcements include energy news and energy savings reports.

One measure of the success of Bedwell’s environmental programs, is that many of our parents report that their children now remind them to turn out lights, use energy efficient bulbs, recycle and compost. Instituting these behaviors at home, in turn, reinforces these behaviors at school. By creating a program which imparts the importance of sustainability to students at a young age, the Bedwell School has committed to a legacy of environmental stewardship, which grooms students to be environmentally conscious citizens. In being nominated as a US Department of Education Green Ribbon School, we hope to serve as a model for other schools that wish to reduce their environmental impact.



## **PART II – SUMMARY OF ACHIEVEMENTS**

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### **Instructions to School Principal**

Provide a concise and coherent "snapshot" that describes how your school is representative of your jurisdiction's highest achieving green school efforts in approximately 800 words. Summarize your strengths and accomplishments. Focus on what makes your school worthy of the title U.S. Department of Education Green Ribbon School.

## **PART III – DOCUMENTATION OF STATE EVALUATION OF NOMINEE**

### **Instructions to Nominating Authority**

The Nominating Authority must document schools' high achievement in each of the three ED-GRS Pillars and nine Elements. For each school nominated, please attach documentation in each Pillar and Element. This may be the Authority's application based on the Framework and sample application or a committee's written evaluation of a school in each Pillar and Element.

### **Nominating Authority's Certifications**

The signature by the Nominating Authority on this page certifies that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct.

1. The school has some configuration that includes one or more of grades K-12. (Schools on the same campus with one principal, even a K-12 school, must apply as an entire school.)
2. The school is one of those overseen by the Nominating Authority which is highest achieving in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
3. The school meets all applicable federal civil rights and federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

Name of Nominating Agency New Jersey Department of Education

Name of Nominating Authority Bernard E. Piaia, Jr.

(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application and certify to the best of my knowledge that the





school meets the provisions above.

Bernard E. Piana Jr.  
(Nominating Authority's Signature)

Date February 14, 2013

Revised: March 4, 2013

The nomination package, including the signed certifications and documentation of evaluation in the three Pillars should be converted to a PDF file and emailed to [green.ribbon.schools@ed.gov](mailto:green.ribbon.schools@ed.gov) according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509  
Expiration Date: February 28, 2015

### **Public Burden Statement**

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1860-0509. Public reporting burden for this collection of information is estimated to average 37 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit P.L. 107-110, Sec. 501, Innovative Programs and Parental Choice Provisions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or email [ICDocketMgr@ed.gov](mailto:ICDocketMgr@ed.gov) and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.

## School Contact Information

School Name: Bedwell Elementary School District: Somerset Hills School District

Street Address: 141 Seney Drive

City: Bernardsville State: New Jersey Zip: 07924

Website: www.shsd.org Facebook page: N/A

Principal Name: Amy Phelan

Principal Email Address: aphelan@shsd.org Phone Number: (908)204-1920

Lead Applicant Name (if different): Same as above

Lead Applicant Email: Phone Number:

Level	School Type	How would you describe your school?	District Name
<input checked="" type="checkbox"/> Elementary (PK - 5 or 6)	<input checked="" type="checkbox"/> Public	<input type="checkbox"/> Urban	<u>Somerset Hills School District</u>
<input type="checkbox"/> K - 8	<input type="checkbox"/> Private/Independent	<input checked="" type="checkbox"/> Suburban	<input type="checkbox"/> Largest 50 Districts
<input type="checkbox"/> Middle (6 - 8 or 9)	<input type="checkbox"/> Charter	<input type="checkbox"/> Rural	Total Enrolled: <u>769</u> (Students: <u>667</u> ; staff: <u>102</u> )
<input type="checkbox"/> High (9 or 10 - 12)			
Does your school serve 40% or more students from disadvantaged households?	% receiving FRPL <u>10.67%</u> % limited English proficient <u>3.2%</u> Other measures _____	Graduation rate: <u>no graduation rate at the elementary level</u> Attendance rate: <u>96.6%</u>	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			

**SUMMARY NARRATIVE:** Provide an 800 word maximum narrative describing your school's efforts to reduce environmental impact and costs, improve student and staff health, and provide effective environmental and sustainability education. Focus on unique and innovative practices and partnerships.

*The Somerset Hills School District is committed to reducing energy costs, improving student and staff health, and providing a culture of sustainability education throughout the District's three schools. At Bedwell Elementary, serving grades PreK-4, the District's energy policy was successfully implemented due to widespread collaboration both within the school and the greater community.*

*As part of a 2009 District Strategic Plan, The Somerset Hills School District committed to implementing "a comprehensive Green Initiative promoting high performing, green, sustainable facilities". The key to the initiative's success was a three-pronged approach. From an infrastructure standpoint, the District undertook an investment grade audit of all buildings and instituted an Energy Savings Improvement Program (ESIP) to implement upgrades as identified by the audit. To complement the upgrades, the District brought in the "Schools for Energy Efficiency" (SEE) Program to implement "no and low cost" energy savings strategies based on behavioral changes. Lastly, environmental education was emphasized across K-12 through curriculum integration, environmental programs and clubs, activities to commemorate Earth Day, and a coordinated environmental awareness/recycling program. An energy coordinator was hired to track energy usage, oversee the behavioral programs and monitor upgrades, savings and utility bills.*

*At the Bedwell School, the District's environmental initiatives adapted well with programs already in place. For example, rotating job charts already existent in each classroom were expanded to include an 'energy captain', who is responsible for seeking out ways to save energy throughout the day, such as turning off lights, closing doors, and turning off computer monitors not in use. The school's existing celebration of Earth Day expanded into Earth Week, and once yearly*

events such as “Turn out the Lights Day” have evolved into a daily effort to rely on natural light. An extracurricular Green Team was established and activities have been increasingly expanded. For example, recycling efforts started out with bottles and cans and have expanded to include bottle caps, ink cartridges, crayons, small electronics, juice packets, coats and eyeglasses, and a composting program was started for lunchroom scraps. To promote healthy eating among students and staff, the school food service company donated seeds for an edible garden, and the food is now served in the cafeteria. The garden will expand due to grants from Lowe’s Corporation, and an Eagle Scouting project will improve the facilities and infrastructure in Spring, 2013. In the classroom, Science and math lessons now include environmental and energy savings themes, and the morning announcements include energy news and energy savings reports.

Collaboration across various levels played a key role in the success of the energy efficiency program at Bedwell. At the building level, custodians, maintenance, cafeteria workers and building operators were trained in energy savings techniques, including weekend and vacation shutdown procedures, as well as energy efficient operations and maintenance. Additionally, these employees were charged with identifying potential energy savings ideas and reporting and fixing any maintenance problems related to wasted energy or water. Teaching faculty oversaw energy and environmental programs in their classrooms and integrated them into existing curricula, while also recruiting students to engage in environmental activities such as the newly formed Green Team. Administrative leaders, including the principal, vice principal and academic team leaders, acted as the focal point for communication and dissemination of information, while providing support and suggestions on how to tailor the program to Bedwell’s specific needs. Bedwell administrators also encouraged interschool cooperation by spearheading a poster contest in which elementary schooler’s ideas for saving energy were judged by members of the Green Team at Bernards High School. External to the school, a myriad of organizations were brought in to participate in the program and provide assistance on projects. These include the Bernardsville Borough, the Bernardsville Borough Green Team, Friends for a Greener Bernardsville, and local corporations and community organizations.

Activities and programs are not enough to ensure success: results must be tracked and strategies modified where necessary. Data on the school’s energy use is tracked monthly and communicated to staff and students through reports, newsletters and announcements. Reports showcase successes and identify areas for improvement, reinforcing a culture of environmental awareness. Bedwell School now considers itself “green” in every sense of the word. Many parents have reported that their children now remind them to turn out lights, use energy efficient bulbs, recycle and compost. Instituting these behaviors at home, in turn, reinforces these behaviors at school. Bedwell is very proud of its environmental program and the culture of stewardship that it has created.

The success of the energy efficiency program at Bedwell demonstrates the effectiveness of energy education at the elementary school level. By creating a program which imparts the importance of energy saving to students at a young age, the Somerset Hills School has committed to a legacy of environmental stewardship which grooms students to be environmentally conscious citizens.

**Instructions for Completing this form:** Please answer all of the questions below to the best of your ability. A more complete application will increase your chances of success. You may supplement the information in these questions by describing alternative benchmarks or indicators of progress (see final question in each section).

#### **SCHOOL PROFILE: GREEN SCHOOL PROGRAM AND AWARDS (Cross-Cutting Question)**

1. Is your school participating in a local, state, or national program, which asks you to benchmark progress in some fashion in any or all of the Pillars? Yes X No \_\_\_ If yes, please explain what program and what level you are currently at, and state the years you have been involved in these programs. (e.g. local Green Strategic Plan, Eco-Schools USA, PLT Green Schools, NJPALS, Green Schools Leadership Institute, NJ Learns, NJ Sustainable Schools Project, NJ Recycling).

1. *The Somerset Hills School District (SHSD) has participated in a District-wide, NJ legislated, Energy Savings*

Improvement Program (ESIP). Ameresco, a NJ qualified Energy Services Company (ESCO), entered into a 15 year Energy Savings Improvement Program (ESIP) with SHSD. The ESIP will generate energy savings from existing operational budgets to self-fund critical capital improvement needs throughout the District. No capital dollar contributions from the District were required to make these energy saving improvements. Upon completion of the ESIP, the District will realize over 23% in savings off the District's total annual operational spend. Additionally, the District is expected to receive over \$520,000 in energy rebates/incentives from the "Pay-for-Performance" program; an energy incentive program sponsored by the NJ BPU. Environmental benefits include significant reduction of the District's carbon footprint and greenhouse gas emissions. The annual green benefits equal the reduction of over 10,000 tons of CO2 and the removal of 1,784 cars from the road. The project also helps reduce the need for energy from traditional power plants fueled by fossil fuels.

2. Since December 2009, the District has participated in the Schools for Energy Efficiency Program (SEE). SEE is a comprehensive program for K-12 schools to save energy and money by changing behavior throughout the District. Students, teachers, administrators and custodians work together, on low and no cost strategies, to decrease energy consumption, reduce carbon footprint and increase literacy and awareness of energy and environmental concerns. To date, the District has achieved a significant reduction in energy consumption and avoided utility costs and earned two prestigious Energy Star Awards.

3. The School District entered into a shared initiative with the Somerset County Improvement Authority (SCIA) to install solar panels on the roof of the High School and the elementary school. Approximately 80% of the Bedwell School roof is covered. The 130.79KW system will start operations in early 2013 and is expected to generate 145,308 Kwh. The District expects to save a minimum of \$20,000 in electric costs per year.

4. The Somerset Hills Schools District as a whole – including the Bedwell School - collaborates with the Borough of Bernardsville on the "Safe routes to School Program." A long-running goal to build sidewalks was boosted by the award of a \$300,000 state grant. Bernardsville's grant was part of the state Department of Transportation's (DOT) Safe Routes to School program. Three new sidewalks were completed last Spring near the Bedwell School and more sidewalk projects are in being planned. As part of the program, the Borough agrees to maintain, improve and shovel sidewalks on Borough property. A Borough ordinance requires homeowners to maintain and shovel sidewalks, so as to be safe for walking.

5. The District also organized the Ridewise and AAA National "Walk to School" Day, in which Bedwell Students participate.

1. Has your school, staff or student body received any awards for facilities, health or environment?

Yes X No     

Award(s) and year(s)

2012 Eligible for Energy Star® - Rating of 77; 2010 Energy Star® Leader award (entire School District) for 10% reduction in energy consumption for an entire portfolio of buildings; 2012 Currently the District is eligible for a 20% leader award. Although the leader awards are for the entire District, the Bedwell School contributes greatly. Bedwell is currently undergoing the verification process to receive the Energy Star.

2012 Mayor's Proclamation – Borough of Bernardsville

In the Spring of 2012, the Mayor of Bernardsville, Borough Council members, Borough Green Team members and The District Superintendant visited Bedwell to deliver an official Mayor's proclamation recognizing Bedwell as the highest performing school building in the District. Specifically, the proclamation honored the students, teachers, staff and administration for :The highest % increase of energy savings of any school building; Doubling its energy savings from 10% to 20% from the first to the second year in its energy savings program; Highest percentage increase in Energy Star Ratings since the beginning of the energy program (20%); Achievement of highest and second highest energy savings (34% and 22% respectively) ever recorded in a single reporting period (3 months); Highest energy savings overall - program to date - of any school building



Has your school identified or created a place for teachers to go to share lessons on Sustainability?

Yes X No \_\_\_ If yes, where?

*Mr. McCarron's Art room has become the informal meeting place for teachers and volunteers involved in the Green Team activities. Participants meet several times a year to review the programs, plan activities, and schedule events.*

Has your School Board adopted a Green Strategic Plan? Yes X No \_\_\_

*In 2009, the District as a whole implemented a "District Strategic Plan". Article VI, Action Plan #6, of the plan designates the implementation of "A comprehensive Green Initiative promoting high performance, green, sustainable facilities." Implementation of this Green Initiative have included:*

- 1. District-wide energy audits. These were conducted under the NJ BPU Local Government Energy Audit Program (LGEAP), and as part of the Ameresco provided Energy Savings Improvement program, an Investment Grade Energy Audit.*
- 2. A District-wide, NJ legislated, Energy Savings Improvement Program (ESIP).*
- 3. Participation in the Schools for Energy Efficiency Program (SEE). SEE is a comprehensive program for K-12 schools to save energy and money by changing behavior throughout the District. To date, the District has earned two prestigious Energy Star Awards, and become eligible for 2 more. Additionally, in 2011 Bernards High School was awarded a New Jersey Green Ribbon and National Green Ribbon as part of the inaugural Green Ribbon School Program. These achievements were attained through engaging students, teachers and administrators together, in low and no cost strategies, to decrease energy consumption, reduce carbon footprint and increase literacy and awareness of energy and environmental concerns.*
- 4. An official, school board-approved energy policy, designed to reduce carbon footprint and energy consumption. In addition to Action Plan #6, "The District Strategic Plan" also calls for:*
  - o An integrated K-12 environmental educational curriculum. Environmental activities and clubs supplement the environmental curriculum.*
  - o Institution of a coordinated environmental awareness/recycling program throughout the District. Specifically, at the Bedwell school, recycled items includes bottles, cans, paper, ink cartridges, bottle caps, crayons, juice packets and electronic and computer recycling in conjunction with Borough of Bernardsville. The Green Team also partners with the SEE program on activities to promote energy awareness and savings.*
  - o Establishment of a District-wide Earth Day. Although the strategic plan calls for establishment of Earth Day, all schools now celebrate Earth Week. At the Bedwell school, Earth Week Is celebrated by raising awareness of environmental concerns as well as with activities to reduce carbon footprint. These activities include using natural light whenever possible, "lights out" hour, "no trash" lunch days, "reusable container" contest, "environmental words of wisdom" aligned to the daily themes during morning announcements, "Let's Save Energy" Poster Contest, litter pick-up outside the building, environmentally themed books, participation in "reduce, reuse and recycle", classroom presentations and projects, Arbor Day celebration (in conjunction with local group "Friends for a Greener Bernardsville" - culminating with tree planting on property and lessons investigating species of trees and classroom items that are derived from trees), math activities relating to recycling and garbage rates, lessons on endangered species, "earth day checklists" to document earth friendly activities that can be done at school and at home, presentations on importance of rainforests, mini landfill project in science classes to explore the concept of decomposition, and discussions of energy reduction strategies at school and at home.*

2. Has your school created a Green Team? Yes X No \_\_\_ If yes, list team members and their roles.

*Debbie Rokowsky and Jianna Spadaccini, 2 teachers, are Co-coordinators of the Green Team. Their role is to organize student activities, preside over meetings, supervise recycling and other green team activities and coordinate Earth Week activities. In addition, parent volunteers from the Home and School Association (HSA) have created a Parent Green Team to augment the activities and provide additional resources to the student Green Team. The student membership consists*

of 10 teams of two students each that collect paper/cardboard, and bottles and cans, which are recycled through the Somerset County recycling program). Teams also collect bottle caps, which are recycled through a program sponsored by Aveda Corp. Team members are changed mid-year to allow more students the opportunity to participate. All Bedwell students are encouraged to recycle their own recyclables in the cafeteria. Juice pouches are recycled through the Terracycle program. Empty ink cartridges are collected by front office personnel for recycling. Further recycling efforts, such as small electronics recycling in conjunction with the High School Green Team and the Borough of Bernardsville Green Team are planned for Spring of 2013.

3. Has your school seen a cost savings from green initiatives? Yes X No \_\_\_ If yes, describe the savings.

*Savings have been achieved through efficiency upgrades throughout the entire facility in lighting upgrades, building temperature controls and an energy education program. The following table displays the year over year savings.*

	Electric Energy Consumption (kwh)	Natural Gas Consumption (therms)	Electric Utility Costs (\$)	Natural Gas Utility Costs (\$)	Total Utility Costs (\$)	Annual Savings (\$)	% Reduction from FY 2009
FY 2009	855,840	61,329	\$140,990	\$92,828	\$233,818	Baseline	Baseline
FY 2010	749,600	55,032	\$120,541	\$71,010	\$191,551	\$42,267	18.1%
FY 2011	673,120	50,813	\$104,920	\$52,181	\$157,101	\$76,716	32.8%
FY 2012	620,160	32,191	\$82,843	\$31,001	\$113,845	\$119,973	51.3%
Total						\$238,956	

*This table is based on data from The District's ESIP, Ameresco*

## PILLAR I: REDUCED ENVIRONMENTAL IMPACT AND COSTS

### Element 1A: Reduced or eliminated greenhouse gas (GHG) emissions - Energy/Buildings

(Please convert energy data to Portfolio Manager format if possible)

1. Can your school demonstrate a reduction in Greenhouse Gas emissions?

(X ) Yes ( ) No Percent reduction: 34.6 Over: *Fiscal year 2009 (07/08 to 06/09) to Fiscal year 2012 (07/11 to 06/12)*

Initial GHG emissions rate (MT eCO<sub>2</sub>/person): 1.19

Final GHG emissions rate (MT eCO<sub>2</sub>/person): 0.78

Offsets: 0 How did you calculate the reduction? *The GHG reduction was calculated by calculating the change in GHG from Fiscal Year 2009 and Fiscal Year 2012 energy consumption. GHG calculations are based on the BPU approved conversion factors provided below.*

	Electric Energy Consumption (kwh)	Natural Gas Consumption (therms)	Number Students/Occupants	Total GHG (MT eCO <sub>2</sub> /person)	% Reduction from FY 2009

FY 2009	855,840	61,329	769	1.19	Baseline
FY 2010	749,600	55,032	769	1.05	11.7%
FY 2011	673,120	50,813	769	0.95	19.9%
FY 2012	620,160	32,191	769	0.78	34.6%

New Jersey Board of Public Utilities  
New Jersey Clean Energy Program  
Protocols to Measure Resource Savings  
dated 7/21/11

CO2	1.52	lbs/kwh
SO2	0.0065	lbs/kwh
NOx	0.0028	lbs/kwh
CO2	11.7	lbs/therm
SO2	0	lbs/therm
NOx	0.0092	lbs/therm

How have you benchmarked your energy use? Yes

2. Has your school conducted an energy audit of its facilities? Yes X No    

Percent reduction: 27.5% electricity (kwh)

47.5% Natural Gas (therms)

Measurement unit used (kBTU/Square foot or kBTU/student): kbtu/square ft.

*FY 2009: 108.8 kbtu/sqft*

*FY 2012: 64.1 kbtu/sqft*

*Percent reduction: 41.1%*

Time period measured: *From June 2008 – June 2009 to July 2011 – June 2012*

3. Has your school received EPA ENERGY STAR certification or does it meet the requirements for ENERGY STAR certification?

Yes X No     Year(s) and score(s) received

*2010 Energy Star Leader award for District – 10%*

*2011 Energy Star Leader eligible for District - 20%*

*2012 Energy star score 77 - highest school building in District - eligible for label – certification in process.*

4. What percentage of your school's energy is obtained from:

On-site renewable energy generation: Yes     Type: Solar

Purchased renewable energy: N/A Type \_\_\_\_\_

Participation in USDA Fuel for Schools, DOE Wind for Schools or other federal or state school energy program:  
*In 2012, the School District entered into a shared initiative with the Somerset County Improvement Authority (SCIA) to install solar panels on the roof of the Bedwell School. Approximately 80% of the High School roof is covered with 451 panels. Operations are schedule to begin in early 2013. The system will generate 130.79kW and 145,308 Kwh, representing 20% of electric usage. The District expects to save about \$20,000 in electric costs per year.*

5. Has your school reduced its total non-transportation energy use from an initial baseline? Yes X No \_\_\_\_\_

Current energy usage (kBTU/student/year): *See tables below*

Current energy usage (kBTU/sq. ft./year): *See tables below*

	Electric Energy Consumption (kwh)	Natural Gas Consumption (therms)	Number Students/Occupants	kBTU/student occupant	kBTU/sq.ft.	% Reduction from FY 2009
FY 2009	855,840	61,329	769	11,774	108.8	Baseline
FY 2010	749,600	55,032	769	10,483	96.9	11.0%
FY 2011	673,120	50,813	769	9,595	88.7	18.5%
FY 2012	620,160	32,191	769	6,938	64.1	41.1%

Percent reduction: *41.1*

over (m/yy - mm/yy): *Fiscal year 2009 (July 2008 to June 2009) to Fiscal year 2012 (July 2011 to June 2012)*

How did you document this reduction? *Documented from existing utility meter billing data*

6. In what year was your school originally constructed? 1958

What is the total building area of your school? *83,183 square ft*

7. Has your school constructed or renovated building(s) in the past ten years? ( X ) Yes ( ) No

For new building(s): Which green building standard was used? N/A

Percentage building area that meets green building standards: \_\_\_\_\_

Certification and level: \_\_\_\_\_ Total constructed area: \_\_\_\_\_

For renovated building(s): Percentage of the building area that meets green building standards: *0%*

Certification and level: \_\_\_\_\_ Total renovated area: \_\_\_\_\_

Which green building standard was used? N/A

(LEED Existing Buildings: Operation & Maintenance, CHPS Operations Report Card, Green Globes or other)

#### Element 1B: Improved water quality, efficiency, and conservation – Water/Grounds

8. Can you demonstrate a reduction in your school's total water consumption (measured in gal/square foot) from an initial baseline? Yes X No \_\_\_\_\_ Please provide:

	Water Consumption (gallons)	Total Square Feet	Water Consumption (gals/sqft)	% Reduction from FY 2009
FY 2009	874,000	83,183	10.51	Baseline
FY 2010	427,000	83,183	5.13	51.1%
FY 2011	352,000	83,183	4.23	59.7%
FY 2012	102,000	83,183	1.23	88.3%

Percentage reduction in domestic use: 88.3%

Percentage reduction in irrigation: *N/A (No irrigation used)*

Percentage reduction: 88.3%

Time period: *From* FY 2009 *to* FY 2012

Do you include after--hour activities in your water consumption calculations? (adult sport leagues, adult education, scouting, other community events etc.?) *Yes*

9. Describe any strategies you use to discourage single-use beverage containers on school property. Describe how you assure the recycling of those containers at athletic locations.

*There is a Brita hydration station outside the cafeteria. Children are encouraged to refill their water bottles as needed. There are also water coolers (vats) in the cafeteria for refilling water bottles during lunchtime. Recycling bins are present at athletic locations.*

10. What percentage of your landscaping is considered water-efficient and/or regionally appropriate? 100%.

*All landscaping elements, trees and on site garden are either native, naturalized or regionally appropriate. All are also appropriate for local drought/weather conditions due to lack of irrigation at school.*

11. What plants are native to your geographic location and how have you incorporated them?

*A broad definition of "native" that is widely accepted is that offered by the Federal Native Plant Committee: "a native plant species is one that occurs naturally in a particular region, state, ecosystem, and habitat without direct or indirect human actions." This generally refers to plants that existed in a location prior to colonization by humans. In New Jersey, the number of truly native plant is very limited. At Bedwell, the only species considered truly "native" is the blueberry, which is grown in 5 different low and high bush varieties in the school garden. All other landscaping elements and trees are "naturalized" (plants that have adapted over time to the general climate, microclimate, altitude, soil, and rainfall of a particular area), with no exotics. In front of the building is a raised-bed flower garden planted by the Home and School Association. Every year during Earth Week, the school, along with a local environmental group "Friends for a Greener Bernardsville" plants a tree on the school property. An edible garden was planted in an interior courtyard. Details on plants in the edible school garden are included in question #10, p. 14*

12. Describe alternate water sources used for irrigation (e.g. roof run-off, parking lot runoff). (50-words max)

- No irrigation on school property.*
- Plants and trees appropriate for rainfall conditions.*
- 50-gallon rain barrel for edible school garden.*
- Water conservation in school garden achieved through raised beds. Fully-grown vegetable leaves just barely touch, creating a microclimate. Thus, moisture is conserved, reducing the need for watering.*



13. Describe any efforts to reduce stormwater runoff and/or reduce impermeable surfaces (e.g. rain gardens, swales, ponds). (50-words max)

*Gutters on building direct water to slow feed underground tank. Pipe leading to the tank is perforated, allowing some water to seep into the ground. 4' pipes lead from tank to provide slow feed to Borough storm water system. The slow feed system prevents overload to Borough storm water system.*

14. Our school's drinking water comes from: ( ☒ ) Municipal water source ( ) Well on school property  
( ☒ ) Other: *There is a Brita hydration station outside the cafeteria. Children are encouraged to refill their water bottles as needed. There are also water coolers (vats) in the cafeteria for refilling water bottles during lunchtime.*

15. Describe how the water source is protected from potential contaminants. (50-words max)  
*The New Jersey American Water Company regularly tests water quality for presence of contaminants.*

16. Describe the program you have in place to control lead in drinking water. (50-words max)  
*The New Jersey American Water Company regularly tests water quality for presence of lead. In addition, all faucets and pipes were retrofitted so there is no lead content in any fixtures or pipes.*

17. Does your school have its own well? Yes \_\_\_ No ☒ If yes, did your school comply with all monitoring requirements and did the drinking water meet all applicable standards? Yes \_\_\_ No \_\_\_ N/A ☒

18. Describe how your school's site grading and irrigation system and schedule is appropriate for your climate, soil conditions, plant materials, and climate, with an emphasis on water conservation: (50-word max)  
*No irrigation; Soil graded to flow away from building; Storm water runoff held in underground tank and fed to municipal system; Water conservation in school garden achieved through raised beds; Fully-grown vegetable leaves just barely touch each other, creating a microclimate, conserving water, and reducing the need for watering.*

#### Element 1C: Reduce waste production – Waste/Hazardous Waste

19. What percentage of solid waste is diverted from landfilling or incinerating due to reduction, recycling and/or composting? Complete all the calculations below to receive points.

A - Monthly garbage service in cubic yards (garbage dumpster size(s) x number of collections per month x percentage full when emptied or collected): *120 cubic yards/month*

B - Monthly recycling volume in cubic yards (recycling dumpster sizes(s) x number of collections per month x percentage full when emptied or collected): *16 cubic yards/month*

C - Monthly compostable materials volume(s) in cubic yards (food scrap/food soiled paper dumpster size(s) x number of collections per month x percentage full when emptied or collected):

*Composting: .374 cubic yards/month*

*(7 cu.ft. bin in garden = .259 cubic yards/month + 5 gal. container in cafeteria weekly = .0288 cubic yards weekly x 4 weeks = .1152 cubic yards)*

Recycling Rate =  $((B + C) \div (A + B + C)) \times 100$ : *12%*

*$((16 + .374) / (120 + 16 + .374)) \times 100$*

Monthly waste generated per person =  $(A / \text{number of students and staff})$ : *.312 cubic yards/person*

20. What percentage of your school's total office/classroom paper content is post-consumer material, fiber from forests certified as responsibly managed and/or chlorine-free? *Office paper is purchased under the Somerset County Cooperative purchasing agreement. Contracts run 6 or 12 months. School does not have choice in purchasing of recycled vs. non-recycled office paper. School does have a choice in purchasing of paper for restroom facilities. Toilet paper and paper towels are all 100% recycled paper and contain no bleach. 100% of office/classroom paper is Chlorine-free*

21. Do you include after-hour activities in your garbage reduction calculations? (adult sport leagues, adult education, scouting, other community events etc.?) *Yes*

22. Describe how you have reduced your paper consumption, and how you measured that reduction (e.g. working and reviewing online, white boards). (50-word max)

*Teacher spaces on website for assignments, help, syllabi, etc.; Laptops, document cameras, kindles, ipads available to students; Communications between school and families online and e-mailed via Bedwell Friday Folder; Community*

*Friday Folder online reduces need for the Borough/community organizations, etc. to distribute paper; Smart boards in classrooms*

23. List the types and amounts of hazardous waste generated at your school:

Flammable liquids <i>None</i>	Corrosive liquids <i>None</i>	Toxics <i>None</i>	Mercury <i>Trace amount of mercury in CFL lighting – bulbs will be recycled in accordance with regulations</i>	Other: <i>None</i>
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How is this calculated? *N/A*

How is hazardous waste disposal tracked? *Bulbs recycled in accordance with regulations for cfl bulbs*

24. Which green cleaning custodial standard is used? *None*

What percentage of all products is certified?

*90 % of cleaning products are "Green Seal Certified"*

What specific third party certified green cleaning product standard does your school use? *Green Seal*

Describe the measures your school has taken to use only green cleaning product

*Bedwell obtains cleaning products and restroom toilet paper and paper towels from Hillyard. Hillyard is the nation's largest manufacturer and distributor of Green Seal Products. Paper towels are manufactured by BayWest Paper. The towels are 100% green seal certified, recycled and contain no bleach. BayWest paper is the only restroom paper company that meets green certification for manufacturers.*

25. Describe other measures taken to reduce solid waste and eliminate hazardous waste (on-site composting).  
(100-word max)

*CFL bulbs are recycled by Somerset County program; Composting in edible school garden and lunchroom; In art class, crayons that are too small to be used are recycled by being melted down and used for wax paintings; Lunchroom scraps are composted; Recycling of paper/cardboard, bottles, cans, caps, juice packs, ink cartridges. Pre-owned eyeglasses and coats collected for donations vs. being thrown away.*

26. If your school has a nurse's office, how does the nurse track regulated medical waste? Describe the tools or mechanisms used to track this waste

*The only medical waste Bedwell presently generates is sharps from needles used with diabetic students and any used or expired epi-pens. Bedwell exchanges sharps containers with Orchard Hill once per school year, or twice at most, depending on how many diabetics are enrolled and epipens are to be discarded. The container is 5.4 qt size. The container is kept in the health office. Orchard Hill locks the used, full container and puts it in another container for transport. Any other medical waste is negligible and does not require separate disposal.*

27. Is a Hazardous Waste Policy for storage, management and disposal of chemicals in laboratories and other areas with hazardous waste, in place and actively enforced? *N/A* Yes\_\_\_\_ No\_\_\_\_

*N/A for elementary school – no science laboratories. Art supplies are non-toxic. No hazardous waste is generated*

28. Are there any Underground Storage Tanks located at your School? \_\_\_\_Yes *X*No\* If yes, do you have the proper permits for using an underground tank? \_\_\_\_Yes \_\_\_\_No *N/A*

*\*(with exception of underground rainwater collection tank)*

#### **Element 1D: Use of alternative transportation**

29. What percentage of your students walk, bike, bus, or carpool (2 + student in the car) to/from school? (Note if your school does not use school buses)

*444 students ride the bus*

*13.5% of students walk or bike to school*

*Information on carpooling is not available*

How is this data calculated? (50-word max)

*District uses Bus Boss software. If a student is a “walker” or “biker”, a permission slip is on file in order for student to be allowed to leave the premises at the day’s end on their own. Walker/biker number was determined by the number of permission slips on file.*

30. Has your school implemented?

☐ [\*] designated carpool parking stalls.

☒ [X] a well publicized no idling policy that applies to all vehicles (including school buses).

☒ [X] Vehicle loading/unloading areas are at least 25 feet from building air intakes, doors, and windows.

☒ [X] Safe Pedestrian Routes and/or Bicycle Routes to School

☒ [X] Walk and Bike to School Days?

☐ [ ] a Walking School Bus program?

☒ [ X] walking and bicycling safety curriculum?

*\* not applicable. Car riders are driven by parents and are dropped off and picked up in a “car rider” line. No parking spaces are used.*

Describe activities in your safe routes program: (50-word max)

1. *\$300,000 NJ Department of Transportation “Safe Routes to School” grant. Three sidewalks completed near Bedwell/more planned.*

2. *“Ridewise”/AAA National “Walk to School” Day.*

3. *Crossing guards hired at heavily trafficked intersections has resulted in more walkers.*

4. *“Town and School Committee” of the Board of Education focuses on pedestrian safety and traffic concerns.*

31. Describe how your school transportation use is efficient and has reduced its environmental impact (e.g. more efficient bus routes, diesel retrofits for buses, use of biodiesel fuel, electric vehicles).

*Busses retrofitted with closed crank case ventilation system. In the past, tubes were used to blow by and vent into the atmosphere. Emissions now run into filter unit and returned vs. being vented into atmosphere.*

*“Town and School Committee developed town/school sidewalk master plan - promotes walking and pedestrian safety.*  
(50-word max)

#### **Summary Question for Pillar 1**

32. Describe any other efforts toward reducing environmental impact, focusing on innovative or unique practices and partnerships. (100-word max)

*The theme of Bedwell’s environmental impact reduction program is cooperation and collaboration. At Bedwell, programs have been successful due to the administration, teachers, staff and students working together. On a broader level, partnership with the School Board, District administration, outside vendors, community organizations, scouting organizations, Audubon Society and Borough, has greatly contributed to lowered carbon footprint and energy costs. These collaborations have led to the establishment of a permanent culture of environmental awareness and behavior that permeates all aspects of school life.*

*Additional partnerships with Dept. of Transportation, AAA, School Board, Borough and “Safe routes to School” have promoted walking/biking.*

## **PILLAR 2: IMPROVE THE HEALTH AND WELLNESS OF STUDENTS AND STAFF**

### **Element 2A: Integrated school environmental health program – Integrated Pest Management/Contaminant controls and Ventilation/Asthma control/Indoor air quality/Moisture control/Chemical management**

1. List all actions taken by your school to control and or manage student’s exposure to pesticides. For each action listed, rate the action’s effectiveness.

*Our school does not use pesticides Pest management is achieved with no-pesticide procedures such as glue traps, etc.*

2. Which of the following practices does your school employ to minimize exposure to hazardous contaminants? Provide specific examples of actions taken for each checked practice.

[X] Our school prohibits smoking on campus and in public school buses

[X] Our school has identified and properly removed sources of elemental mercury and prohibits its purchase and use in the school. \*

*\*With the exception of cfl bulbs, which are recycled*

[X] Our school uses fuel burning appliances and has taken steps to protect occupants from carbon monoxide (CO)

*The building has an air exchange system, which is part of the HVAC system, and exchanges the air in all rooms six times per hour.*

[ ] Our school does not have any fuel burning combustion appliances (e.g. boilers, emergency generators, hot water heaters, etc.)

[X] If Applicable - Our school has tested all frequently occupied rooms in contact with the ground, and first floor rooms above basement spaces that are not frequently occupied for radon gas and has fixed and retested rooms with levels that tested at or above 4 pCi/L OR our school was built with radon resistant construction features and tested to confirm levels below 4 pCi/L

*Building is routinely tested for the presence of radon and levels always have tested below 4 pCi/L*

[X] Our school has identified any wood playground or other structures that contain chromate copper arsenate and has taken steps to eliminate exposure.

*Wood playground structures were removed in 2000*

3. Describe how your school controls and manages chemicals routinely used in the school, as well as construction or cleaning activity that produces odors or dust, to minimize student and staff exposure. (100-word max)

*The only applicable cleaning activity is refinishing of gym floors and this is done in the summer time so there is no student or staff exposure. Construction is also done in the summer so no exposure to students or staff.*

4. Describe actions your school takes to prevent exposure to asthma triggers in and around the school. (100-word max)

*See Asthma policy on p. 13*

5. Describe actions your school takes to control moisture from leaks, condensation, and excess humidity and promptly cleanup mold or removes moldy materials when it is found. (100-word max)

*Moisture from leaks, condensation etc. , when found, is remediated immediately in-house. Air conditioning in summer is maintained at optimal temperature for minimal condensation. District switched to 4 day work week for staff during summer, further reducing air conditioning. All roof leaks are promptly addressed. Walls are coated with waterproof coating. Mold odors are promptly acknowledged and addressed through contract with outside vendor who conducts testing. To date, no mold has been found.*

6. Our school has installed local exhaust systems for major airborne contaminant sources. (X)Yes ( )No

*The building has an air exchange system, which is part of the HVAC system, and exchanges the air in all rooms six times per hour.*

7. Describe your school's practices for inspecting and maintaining the building's ventilation system and all unit ventilators to ensure they are clean and operating properly. (100-word max)

*Filters are changed twice a year; All exhaust fans are regularly inspected; Computer-controlled system alerts maintenance to exhaust problems.*

8. Describe actions your school takes to ensure that all classrooms and other spaces are adequately ventilated with outside air, consistent with state or local codes, or national ventilation standards. (100-word max)

*The building has an air exchange system, which is part of the HVAC system, and exchanges the air in all rooms six times per hour.*

9. Describe other steps your school takes to protect indoor environmental quality such as:

[ ] implementing EPA IAQ Tools for Schools and/or

[X] conducting other periodic, comprehensive inspections of the school facility to identify environmental health and safety issues and take corrective action.

*Every Year, Bedwell participates in the Worker and Community "Right to Know" Program through the New Jersey department of Environmental Protection Office of Pollution Protection. Bedwell also participates in QSAC inspections every three years, in conjunction with the county superintendant, in which the entire building is inspected for safety and maintenance .*

☒ participating in the Pediatric/Adult Coalition of NJ's Asthmas Friendly Awareness Program

(SHSD recognizes the primary goal for children with **asthma** is to live as normal a life as possible, participating in normal childhood activities, experiencing exercise tolerance similar to peers, and attending school to grow intellectually and develop socially. In accordance with N.J.A.C. 6A:16-2.1(a)5, the Board adopted the following Policy for the treatment of **asthma** in the school setting)

200 word (max):

*Every school shall have and maintain at least one nebulizer in the office of the nurse or a similar location. Each nurse shall receive training in airway management and the use of nebulizers and inhalers consistent with nationally recognized standards including, but not limited to, those of the National Institutes of Health and the American Academy of Allergy, **Asthma** and Immunology pursuant to N.J.S.A. 18A:40-12.8(a). The nurse, upon receiving this training, is authorized to administer **asthma** medication through the use of a nebulizer pursuant to N.J.S.A. 18A:40-12.8(a).*

*Each pupil authorized to use self-administered **asthma** medication pursuant to N.J.S.A. 18A:40-12.3 or a nebulizer shall have an **Asthma** Action Plan (AAP) prepared by the pupil's medical home and submitted to the certified school nurse. The AAP shall identify, at a minimum, **asthma** triggers and information to be included in the individualized healthcare plan and individualized emergency healthcare plan, pursuant to N.J.A.C. 6A:16-2.3(b) for meeting the medical needs of the pupil while attending school or a school-sponsored function.*

*N.J.S.A. 18A:40-12.3; 18A:40-12.7*

*N.J.A.C. 6A:16-2.1(a)5*

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#### **Element 2B: Nutrition and Fitness – Fitness and outdoor time/Food and Nutrition**

10. Which practices does your school employ to promote nutrition, physical activity and overall school health? Provide specific examples of actions taken for each checked practice, focusing on innovative or unique practices and partnerships. (100-word max each)

☐ Our school participates in the USDA's Heathier US School Challenge. Level and year: \_\_\_\_\_

☒ Our school participates in a Farm to School program to use local, fresh food.

*The Bedwell Health and Wellness committee is currently working with a grant writer to establish a Farm to School program at Bedwell. This would involve field trips to a local farm that would supply food. Students would make the connection between locally grown food and what they are consuming in the lunchroom. They will learn the health and environmental benefits of this practice. This past Autumn, Bedwell celebrated "Farm to School" week, in which the "Fresh Committee ", a committee of the Home and School Association (HAS), brought in a local farmer to talk about apples and farming. Currently, the cafeteria serves fruit and vegetables grown in the on-site food garden.*

☒ Our school has an on-site food garden.

*The on-site food garden was established in 2011 by Mr. McCarron/Mr. Thurlow, using an HSA grant. There are 18 raised beds, each 4' x 8', in which students grow and tend many varieties of fruits, vegetables and flowers. All produce is used in the school cafeteria for lunches. A \$3,000 grant from Lowe's Corporation was secured to expand the garden by 6 raised beds. An Eagle Scout project this Spring will add 4 additional beds plus an arbor and natural stone pathways for easier access to beds. A bat house and greenhouse will be added in Spring of 2013.*

☒ Our school garden supplies food for our students in the cafeteria, a cooking or garden class or to the community.

*The edible school garden produce is supplied to the cafeterias at Bedwell and at Bernards High School. Excess produce is available to staff during the summer. Next summer, produce will be available to the community through an "honor system" farm stand. Students tend the garden during lunch and free periods and learn the basics of gardening, composting, and water management practices.*

☒ Our students spent at least 120 minutes per week over the past year in school supervised physical education.



*Every six days each student at Bedwell receives 90 minutes of PE instruction and 90 minutes of Health instruction. This correlates to a 5 day weekly cycle in which students receive 75 minutes of PE and 75 minutes of Health. In addition to supervised PE, all students have an active outdoor recess on over two acres that includes a full size basketball court and an expansive playground. This is an additional 100 minutes of outdoor activity per week. On inclement days 6 classes (120 students) cycle through the gym during recess, to give the population the opportunity to stay active.*

*[X ] At least 50% of our students' annual physical education takes place outdoors.*

*New Jersey's climate consistently lends itself to outdoor activity during most of the Fall and Spring seasons. Winters are less predictable with cold temperatures. The goal is to go outside every day the weather permits, especially with classes in grades two through four who are better able to handle the outdoor climate. On very cold days, the school tends to favor the indoor setting for Kindergarten and first grade as more is accomplished in PE terms.*

*[ ] Health measures are integrated into assessments*

*[\*] At least 50% of our students have participated in the EPA's Sunwise (or equivalent program).*

*\*Bedwell does not officially participate in the Sunwise program, but sun exposure and the use of sunscreen are emphasized before outdoor activities, such as the end of the year 4<sup>th</sup> grade pool party and field day. Flyers are sent home reminding parents to apply sunscreen.*

*[X] Our school's food services program is working to bring more local produce and sustainably produced foods into the schools.*

*1. Menu modified to include school garden produce and healthy options. Example: homemade soups replaced canned.*

*2. Food Services donated seed for school garden.*

*3. Food Services participates in the "Jersey Fresh" program serving only locally grown produce.*

*4. Students participated in apple tasting event during lunch periods, choosing among different types of apples and voting for favorites.*

*5. The "Fresh" and "Health and Wellness" Committees funds visits from certified Nutritionist, who teaches lessons with focus on healthy foods and link to healthy bodyweight. Commonly available drinks and cereals are used to teach students how to read nutrition labels, and make healthier choice.*

*Percentage: 100% of fruits and vegetable are purchased from farms in New Jersey under the New Jersey Department of Agriculture's "Jersey Fresh" Program. Food from the on-site edible garden varies by season.*

*Type: From onsite garden: Blueberries (5 varieties – high bush and low bush), strawberries, tomatoes (several varieties including heirlooms), zucchini, summer squash, snow peas, potatoes (3 varieties), corn, broccoli, cucumbers (3 varieties), onions (2 varieties), string beans, celery, pole beans, lettuce (12 species), peppers (sweet and hot – 7 species), eggplant (2 varieties), radish*

*11. Does your school compost lunch waste on-site? If so, what percent? How much is used in your outdoor classroom?*

*Currently, a lunch waste composting program has started. Waste is collected by Green Team students using a 5 gallon container. Four additional composting bins have been purchased to expand the lunch composting program in 2013.*

*12. What environmental technology is used at your school? (e.g. weather station, composting, rain garden)*

*Composting, rain gauge, rain barrels, praying mantis habitat, bird feeders. Last year, a pair of golden finches (New Jersey state bird) nested in the garden and produced offspring. A 50 gallon rain barrel is used for watering plants. A grant has been awarded for a weather station – to be purchased in 2013. Weather data will be broadcast during morning announcements. In 2013, several bat houses will be installed. A \$3,000.00 grant from Lowe's Corp. was awarded to build a greenhouse in 2013. Greenhouse will be used to nurture seedlings and to house a butterfly population. Ladybug purchase is planned as natural alternative to pesticides. Praying mantis, butterfly and ladybug studies augment bug unit in science curriculum.*

*13. Describe the type of outdoor education, exercise and recreation available. (100-word max)*

*Bedwell is adjacent to and makes use of over 10 acres of Borough recreation property, comprised of nature trails, tennis courts, and sports fields, all maintained without the use of pesticides; Girls on the run program; "Fit Break" 2 minute videos in classrooms; Project "Fit America" grant for fitness equipment and PE lessons; HSA grant for stationary bicycles provides exercise and promotes bike use; students work in on-site garden – planting, composting, harvesting.*

## **Summary Question for Pillar 2**

14. Describe any other efforts to improve nutrition and fitness, highlighting innovative or unique practices and partnerships. (100-word max)

*School garden, created with the assistance from Environmental Education Center at the Great Swamp, provides unique opportunities for students. It provides nutritious organic food for the cafeteria, and functions as outdoor classroom, and setting for art classes. Several times/week, 30 students work in garden during lunch period. Garden. A grant from Lowe's will expand garden in 2013. Eagle Scout project will add 4 beds, arbor and natural stone pathways for easier access; Yoga and Zumba classes in partnership with local studio are offered to staff; "Bootcamp" Foundation will offer student scholarships students to attend Borough Recreational programs at no charge.*

**Pillar 3: Provide effective environmental and sustainability education, incorporating STEM, civic skills and green career pathways:**

**Element 3A: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems.**

1. Which practices does your school employ to help ensure effective environmental and sustainability education? Provide specific examples of actions taken for each checked practice, highlighting innovative or unique practices and partnerships.

[\*] Our school has an environmental or sustainability literacy requirement. (200-word max)

*\*\_Bedwell, being a public Pre-K-4 elementary School does not have an environmental literacy requirement, However, sustainability topics are included across the curriculum.*

[X] Environmental and sustainability concepts are integrated throughout the curriculum. (200-word max)

*As part of the SEE program, grade level-specific curriculum materials regarding energy efficiency and environmental topics related to energy are supplied to team leaders. Materials include science projects, math problems, vocabulary words, crossword puzzles, articles, and books. Additionally, existing projects are supplemented with environmental and sustainability materials. For example, a 4<sup>th</sup> grade project, in which each student creates a poster highlighting characteristics of a foreign country of their choice, now include information on energy consumption, sources, pollution and costs. Green Team activities encompass many environmental themes such as recycling, energy consumption, pollution and healthy living. Earth Week activities are concentrated during Earth Week, but most have been expanded over the entire school year, including no trash lunch days, using natural light, and recycling. Environmentally themed books, purchased during Earth Week each year are placed in classroom libraries and the library permanent collection and are available to students all year and are used for cross-curricular activities, such as writing, literacy, science, and art.*

[X] Environmental and sustainability concepts are integrated into assessments. (200-word max)

*Student products in environmental projects are communicated through teacher comments, observations, and discussions.*

[Y] Students evidence high levels of proficiency in these assessments. (100-word max)

*4<sup>th</sup> Graders take a NJASK Science test each Spring, designed to assess their mastery of New Jersey's Science Standards. This assessment covers the standard through grade 4. In 2012, 98% of 4<sup>th</sup> graders scored "proficient" on this test, with 63% scoring in the advanced proficient range.*

[\*] Professional development in environmental and sustainability education are provided to all teachers. (200-word max)

*\*Although Bedwell, being a public PreK-4 school, does not have an environmental or sustainability education requirement, teachers are given the opportunity for professional development in these areas. These include: Earth Week Resources; SEE curriculum materials; Energy Savings reports and newsletters; Presentations on environmental topics at faculty meetings; Grant opportunities, resulting in expansion of food garden and composting program.*

**Elements 3B: Use of the environment and sustainability to develop STEM content, knowledge, and thinking skills**

2. For schools serving grades 9-12, provide:

Percentage of last year's eligible graduates who completed the AP Environmental Science course during their high school career: \_\_\_\_\_ Percentage scoring a 3 or higher: \_\_\_\_\_ *N/A*

3. How does your school use sustainability and the environment as a context for learning science, technology, engineering and mathematics thinking skills and content knowledge? (200-word max)

*Bedwell uses sustainability and environmental topics as a context for learning the STEM subjects. These include: Science projects, green team projects, and math problems. Energy-themed engineering-type projects have included a plug load survey, watt metering project, and a "Jeopardy" game show to instruct students on how energy is generated and how it affects the environment. An Energy Hog assembly brought in the Energy Hog from the Alliance to Save Energy to teach students about how wasting energy negatively affects the environment.*

4. How does your school use sustainability and the environment as a context for learning green technologies and career pathways? (200-word max)

*Career pathways are generally not covered at the elementary school level, but Bedwell does incorporate green technologies in its instructions as part of the edible school garden. These include: Water conservation through the use of rain barrels, raised beds and micro-climates; Composting garden waste; Organic gardening; The use of native and naturalized plantings; the use of bats and insects as a natural alternative to pesticides.*

### **3C: Development and application of civic knowledge and skills**

5. Describe students' civic/community engagement projects that integrate the environment, environmental justice ([as defined by EPA](#)) and sustainability topics. (200-word max)

*Bedwell's "Character Education Program was designed to "create a community of good neighbors who show respect, responsibility, trustworthiness, citizenship, fairness, and caring." Integrating these characteristics into the fabric of the school is the goal and are reinforced through class lessons, discussions and activities. Environmentally-themed activities, such as recycling, are stressed in terms of citizenship, in particular how a sense of fairness is reflected in thinking about how students' actions affect others. Energy-themed activities include lessons on how reducing Bedwell's carbon footprint affects the earth. Community activity that reinforces this theme is the annual Earth Week/Arbor Day tree planting celebration. Bedwell partners with local group - Friends for a Greener Bernardsville - and landscaping company (LTD) to learn about trees and plant a tree on property. The first graders make "Earth Day" hats; students gather around tree; members of FFGB and LTD speak about importance and care of trees, and children sing a tree song. Each child scoops a cup of soil and dumps it onto root bulb as a ceremonial planting. FFGB then hands out pine seedlings. Through this activity, children learn importance of trees in the environment and how their efforts to plant trees positively impacts the global environment.*

6. Describe how outdoor learning is used to teach an array of subjects in contexts, engage the broader community, and develop civic skills. (200-word max)

*Edible garden provides outdoor learning opportunities across a number of subjects, including: Nutrition, weather, green technologies, art, gardening, composting, water conservation, natural pest control and horticulture; "Girls on the Run", an after school program, puts forth the goals of unleashing confidence through accomplishment while establishing a lifetime appreciation of health and fitness. Lessons on fitness, self awareness, self image and positivity culminate in the girls running a 5k; Twice a cycle a certified PE teacher runs an organized major game during recess. This allows students to utilize game skills in a safe and supervised way. This modeling helps students do a better job when PE staff is not present for recess; HSA grant for Bicycles in the Gym project; After school yoga and zumba classes promote staff health; Bedwell Bootcamp Foundation will create a scholarship that would enable students, who otherwise would not be able to pay the fees, to attend Bernardsville recreation department classes and camps free of charge.*

7. Describe your partnerships to help your school and other schools achieve in the 3 Pillars. Include both the scope and impact of these partnerships. (Maximum 200-words)

*Collaboration and Cooperation - within Bedwell, the District, the Community and with Corporate partners - have been essential to the success of the environmental program at Bedwell. Successful partnerships have motivated additional collaborations and have brought many various players together for the same goal. Many activities have evolved into annual events. The scope and impact of these partnerships have been included throughout the application, but to summarize the partnerships:*

*Partnerships within Bedwell:*

*Administration, staff, faculty and students working together to achieve energy savings*

*Partnerships between Schools:*

*Energy Poster Contest, Small Electronics Recycling, Garden Produce in lunchrooms*

*Partnerships Eternal to District:*

*ESIP (Ameresco) - infrastructure upgrades*

*SEE program - Low and no cost behavioral strategies, educational materials and activities*

*Energy Star (Energy Star Partner, Benchmarking, Portfolio Manager, Energy Star Label, Energy Star Leaders, various resources at Energy Star including, webinars, website, educational materials)*

*U.S. Department of Energy – Energy Information Agency (Educational materials)*

*Food Services Corporation (seeds to edible garden, garden produce served in cafeterias)*

*Community Partnerships: Friends for Greener Bernardsville, Borough of Bernardsville, Borough Green Team,*

*Environmental Education Center, Audubon Society ( upgrade of path to AS), Boy Scouts, Home and School Association*

*Corporate Partnerships: Lowes, Aveda, Terracycling*

### **Summary Questions for Pillar 3**

8. Describe any other ways that your school integrates core environment, sustainability, STEM, equity and environmental justice issues ([as defined by EPA](#)), green technology and civics into curricula to provide effective environmental and sustainability education, highlighting on innovative or unique practices and partnerships. (Maximum 200-words)

*The District's strategic plan included an integrated K-12 environmental educational curriculum, with the establishment of environmental activities and clubs to supplement. At Bedwell, this vision is realized by incorporating environmental and sustainability topics into the STEM curricula, character education program, and existing activities. Examples include energy-themed math and science projects, texts, an "Energy Hog" assembly and a Jeopardy-themed game show. Environmental clubs and activities have expanded every year. To add to the success of these activities, partnerships within and outside of the District have increased. Earth Day has expanded into Earth Week, and many of the activities are now practiced all year long. Recycling, which started with bottles and cans and have now expanded greatly. A composting program was started for the lunchroom and garden. To promote healthy eating, the food service donated seeds for an edible garden, and the produce is now served in the cafeteria. The garden is also used a classroom, where students learn about organic farming, water conservation, and wildlife habitats. All energy savings initiatives are used as a teaching tool and further reinforce the success of the school in lowering its carbon footprint. Bedwell expects these educational initiatives to continue to expand and flourish.*

9. How are your descriptions in number 8 supported or enhanced by your efforts in Pillar 1 to reduce environmental impact and costs for your school. (Maximum 100-words)

*All efforts outlined in Pillar 1 – Reduced Environmental Impact and Costs - are used as a teaching tool. Reports and newsletters are disseminated to all staff, faculty and students and reviewed as an part of the environmental curriculum. In turn, Environmental and Sustainability Education topics, outlined in Pillar 3 work to further reinforce the energy savings program. The success of reducing the environmental impact at Bedwell serves as an example of the effectiveness of environmental education at the elementary school level.*